

IN THE CLAIMS:

Please amend Claims 1, 3-8, 12, and 13, to read as follows.

1. (Currently Amended) An actuator comprising:
a laminated structure having a vibration plate, a lower electrode, a piezoelectric element, and an upper electrode laminated sequentially on a basic element, wherein at least said lower electrode of said two electrodes is ~~a thin oxide film of La-doped single orientated crystal or monocrystal containing Sr and Ti~~ an La-doped single orientated crystal or monocrystal oxide film containing Sr and Ti, in which La, Sr and Ti are contained in a common layer.

2. (Original) An actuator according to Claim 1, wherein the piezoelectric element is a thin oxide piezo-electrostrictive film of single orientated crystal or monocrystal.

3. (Currently Amended) An actuator according to Claim 1, wherein the La doping concentration in the ~~electrode of thin oxide film~~ of single orientated crystal or monocrystal oxide film is within a range of 0.05 atm% to 10 atm%.

4. (Currently Amended) An actuator according to Claim 1, wherein the lattice constant of the ~~electrode of thin oxide film~~ of single orientated crystal or monocrystal oxide film is within a range of 3.905Å to 4.030Å.

5. (Currently Amended) An actuator according to Claim 1, wherein the film thickness of the ~~electrode of thin oxide film~~ of single orientated crystal or monocrystal oxide film is within a range of 50 nm to 5,000 nm.

6. (Currently Amended) An actuator according to Claim 1, wherein the crystal orientation of the ~~electrode of thin oxide film~~ of single orientated crystal or monocrystal oxide film is ~~either~~ one of (010), (101), (110), and (111).

7. (Currently Amended) An actuator according to Claim 1, wherein the crystal orientation ratio of the ~~electrode of thin oxide film~~ of single orientated crystal or monocrystal oxide film is 95% or more.

8. (Currently Amended) An actuator according to Claim 1, wherein the piezoelectric element is a thin oxide piezo-electrostrictive film of single orientated crystal or monocrystal containing Pb, and at least ~~either~~ one of Zr, Ti, Ni, Nb, Mg, Zn, and Sc.

9. (Original) An actuator according to Claim 8, wherein the crystal orientation ratio of the thin oxide piezo-electrostrictive film of single orientated crystal or monocrystal is 90% or more.

10. (Original) An actuator according to Claim 8, wherein the crystalline system of the thin oxide piezo-electrostrictive film of single orientated crystal or monocrystal is rhombohedral or tetragonal.

11. (Original) An actuator according to Claim 8, wherein the film thickness of the thin oxide piezo-electrostrictive film of single orientated crystal or monocrystal is 500 nm or more and 10 μm or less.

12. (Currently Amended) A liquid discharge head provided with a main body portion having the actuator according to Claim 1, and a pressure chamber formed

with an opening portion on a part thereof, and communicated with a liquid discharge port, wherein said actuator is provided on said pressure chamber so as to close said opening portion.

13. (Currently Amended) A liquid discharge head provided with a main body portion having ~~the~~ a pressure chamber communicated with a liquid discharge port, and an actuator provided on said main body portion corresponding to said pressure chamber,

wherein said actuator comprises a laminated structure having a vibration plate, a lower electrode, a piezoelectric element, and an upper electrode laminated sequentially on said main body portion, and at least said lower electrode of said two electrodes is ~~a thin oxide film doped with La of single orientated crystal or monocrystal containing Sr and Ti~~ an La-doped single orientated crystal or monocrystal oxide film containing Sr and Ti, in which La, Sr and Ti are contained in a common layer.

14. (Withdrawn) A method for manufacturing a liquid discharge head provided with the main body portion having pressure chamber communicated with liquid discharge port, and an actuator provided on said main body portion corresponding to said pressure chamber, comprising the following steps of:

filming a vibration plate on said main body portion;

filming on said vibration plate a lower electrode of thin oxide film of single orientated crystal or monocrystal containing La doped Sr and Ti;

filming on said lower electrode a perovskite type thin oxide piezo-electrostrictive film

filming an upper electrode on said perovskite type thin oxide piezo-electrostrictive film; and

forming said pressure chamber.